

STIMULOPT USER MANUAL



Version
005

Optokinetic ball

This document explains the features and utilization of the device
Stimulopt developed by FRAMIRAL.

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I) Presentation



Figure 1 - Stimulopt

The **STIMULOPT®** is a device for optokinetic stimulation, using a reflective ball, illuminated by a powerful white light source, rotating on two axes.

The projection on the side walls, ceiling and floor, of a white room is usually uncomfortable.

The rotation is done by step-to-step motors, accurate and quiet, controlled by an electronic system.

The device is preferably set up on a wall shelf, 2m high from the floor.

The light can be oriented, and offers a precise focusing on the wall, regarding the size of the room, and an adjustable size of the light spots.

The device is powered with a transformer 240V/110V to 15V.

There are three ways to pilot this device :

- Via Touchscreen
- Via Infrared remote controller
- Via computer (Multitest Software, through Multitest Platform)

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II) Installation precautions



Figure 2 - Stimulopt

In order to get nice light spots on your walls, it is advised to place the device on the edge of a wall shelf. This shelf should be centered in the middle of the projection wall. The patient has to stand under the device, in order to avoid shadows (see Figure 2 - Stimulopt).

Place the USB light as low as you can, and direct the light beam to the ball, in order to get an evenly spread set of light dots on your wall.

The room walls should be as clear as possible (white is the best), and entirely dark. Watch out for light under the doors and windows.

The device should be placed around 2m high, for a better projection. Don't forget that the back axis of the device can rotate, so the maximal height of the device is 45cm.

Setting up the USB light:

Figure 3 – Plug in the USB light

The USB connector of the light plugs in the USB port located in front of the device.

Electrical / Command plug in:Link device – touch screen:

Link the device to the touch screen with the RJ11 cable.



Figure 4 - RJ11 Cable

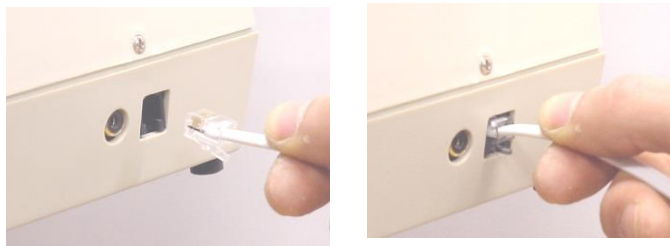




Figure 5 – Touch screen connection

The connectors have to be locked in their connection socket (click).

Power:

Plug the transformer to the wall socket:



Figure 6 - Power

Plug the other side to the appropriate socket at the back of the device.



Figure 7 - Power plugin

A fuse 5x20mm - 2A has to be put in the fuse socket.

Start the device:

Switch on the device with the I/O switch located at the back. The red LED should light on, and the touch screen should initialize:

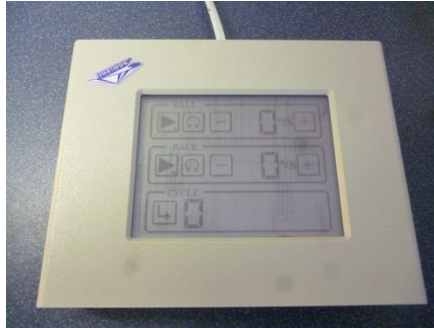


Figure 8 – Touch screen

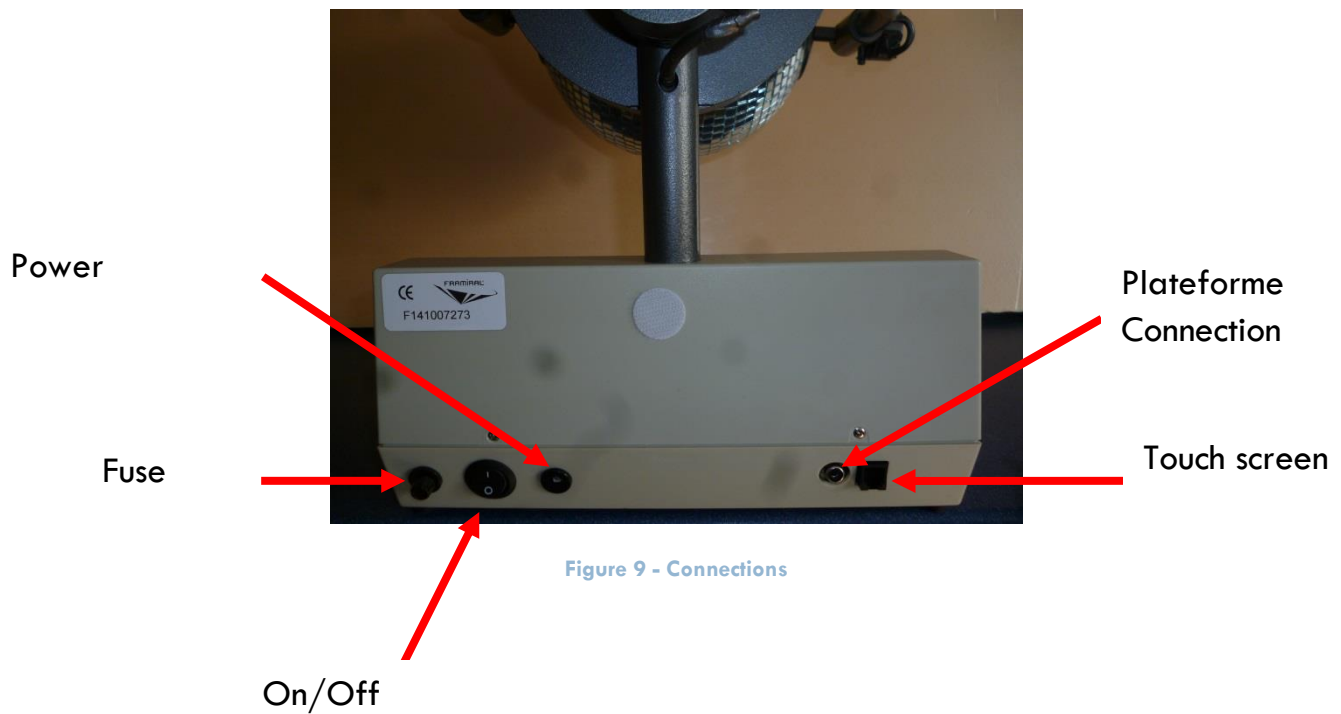


Figure 9 - Connections

Setting up the light:

Once the device is correctly positioned in the room, you can adjust the USB light in order to get a good quality of light dots on the walls, ceiling and floor.

First, turn on the ball by clicking on any of the “play” icon on the touch screen:



Figure 10 – Touch screen



The light should turn on automatically.

Modify the distance between the ball and the light, to change the size of the light spots (Figure 11).

The closest the light to the ball, the bigger the light spots on the wall.

You can also change the luminosity (Figure 11).



Figure 12 – USB Light



Figure 11 – Luminosity button

Luminosity

III) Utilization

The device can be controlled with:

- The touch screen.
- The infrared remote controller
- The MULTITEST platform (please refer to the MULTITEST user manual for this solution)

Touch screen :

This touch screen allows you to control the device, and visualize the current parameters (speed, cycles...).

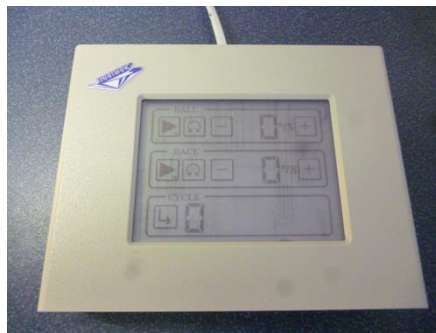


Figure 13 – Touch screen

You can set a speed and a direction to each of the two motors.

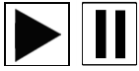
You can also start an automated cycle, in which speeds and direction are pre-defined.

When cycle '0' is selected, the control is manual: the ball will turn as specified by the practitioner, for an unlimited time.

Frames « BALL » or « BACK » :

You can set/find the speed of the rotation, by step of $1^{\circ}/s$. '0' means that the motor is off.

Two groups of button allow you to control the two motor « BALL » and « BACK »:



Turns On/Off the motor, back to its previous speed.



Change the direction of the rotation (only on cycle '0').





Speed up or slow down the rotation by clicking on '+' or '-'. If the motor is off, you can still pre-set the speed.

Frame « CYCLE » :



By clicking on this icon ('CYCLE' frame), you can select a running cycle:

CYCLE 1: alternative direction mode, invariable speed.

Icons   allows you to set the time lapse between every direction change (ball rotation).

CYCLE 2: alternative direction mode – random time-lapse (1 to 59 s) invariable speed.

CYCLE 3: alternative speed mode – random time-lapse, invariable direction.

CYCLE 4: alternative speed and direction mode – random time-lapse.

The parameters are saved when the device is turned off. They will be restored when the device is turned on (power cuts).

Infrared Remote Controller :



Figure 14 – Remote controller

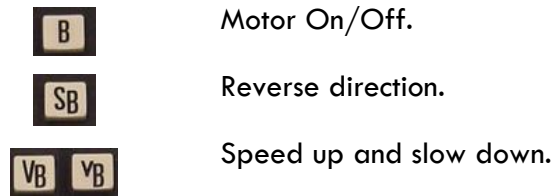
The remote controller offers the same functions as the touch screen.

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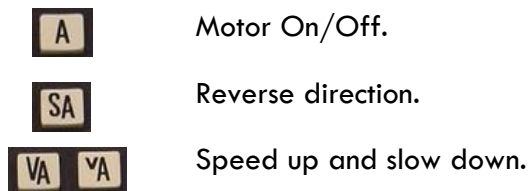
For a better efficiency, it is advised to target the IR receiver located on the front of the device when using the IR remote controller. The range is about 4 to 5 meters.

Functions available on the remote controller:

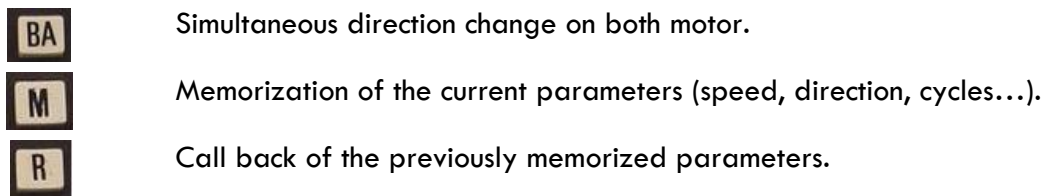
The column on the left side allows you to control the 'BALL' motor as the 'BALL' frame of the touch screen:



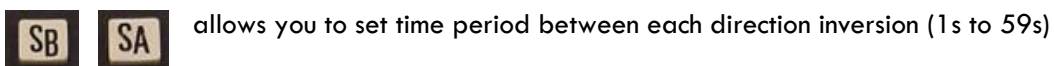
The column in the middle allows you to control the 'BACK' motor as the 'BACK' frame on the touch screen:



The column on the right side is for special functions:



When in 'CYCLE' mode ,



IV) Maintenance

It is very important to clean up the mirrors on the ball regularly, as dust can reduce the quality of the projected light dots.

Power should be turned off when cleaning the device.

Use an appropriate cleaning solution. No acetone.

Dry off with a cloth, without forcing too much on the ball. You can manually rotate it slowly on both axes to get to the hidden parts.



Figure 15 - Cleaning

V) Troubleshooting

Faded light:

Check the luminosity setting
Replace the USB light

The device does not turn on:

Check the plugs.
Replace the fuse.

Remote controller not responding:

Reset the controller

Unclip the top part of the controller (no screws).

Hold on the Reset button, and click on any other button. Release the Reset button.

Replace the batteries

The batteries lifetime will depend on the utilization. You can replace the batteries once a year to keep the controller performances. Replace the 3 batteries (AAA 1,5V / LR03) ensuring the polarity is respected.

Reset Button



Figure 16 – Batteries replacement

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